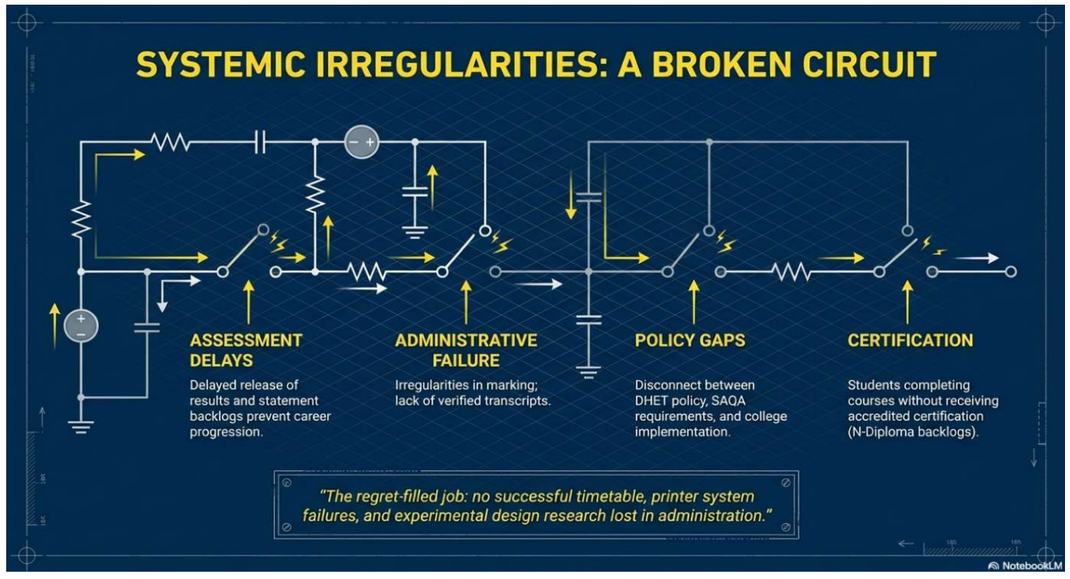
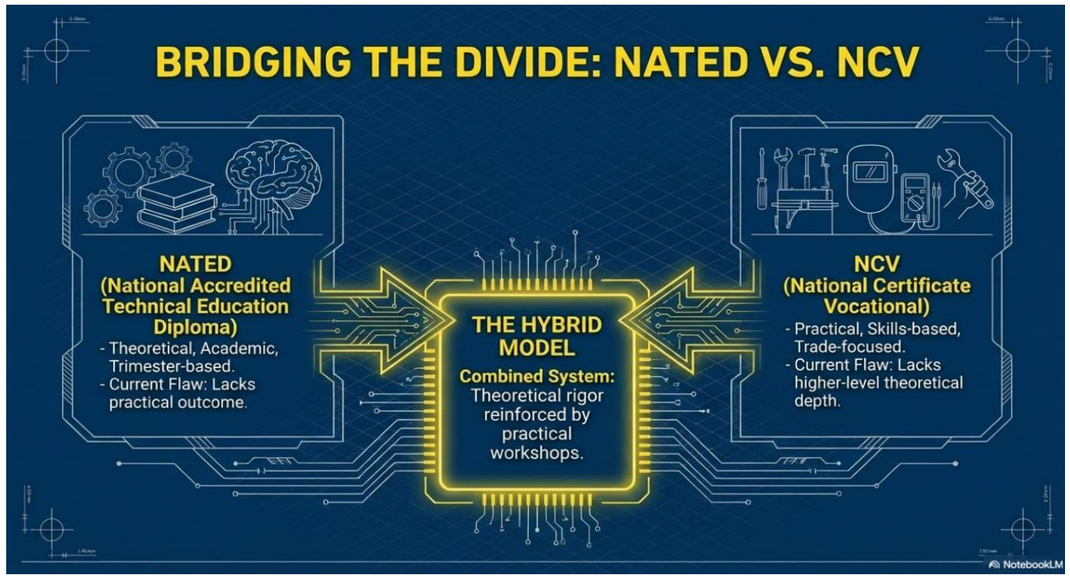
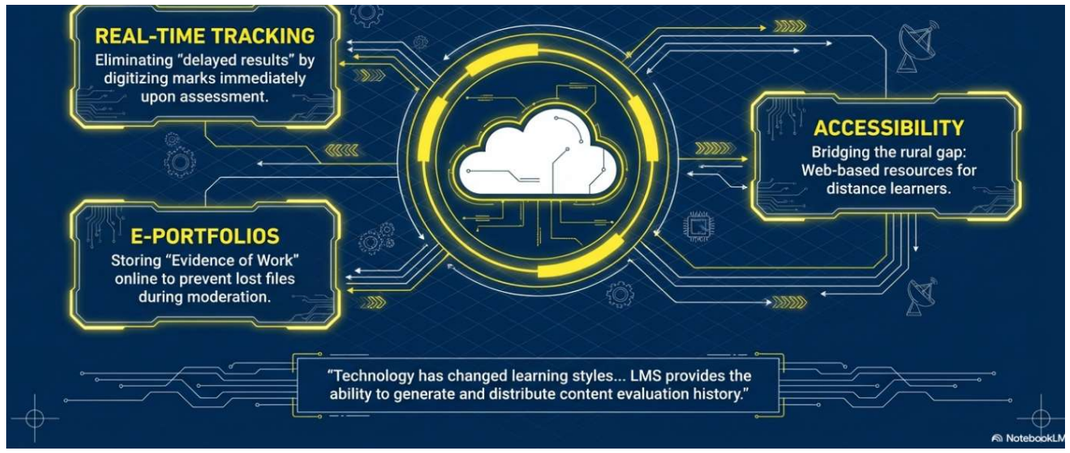
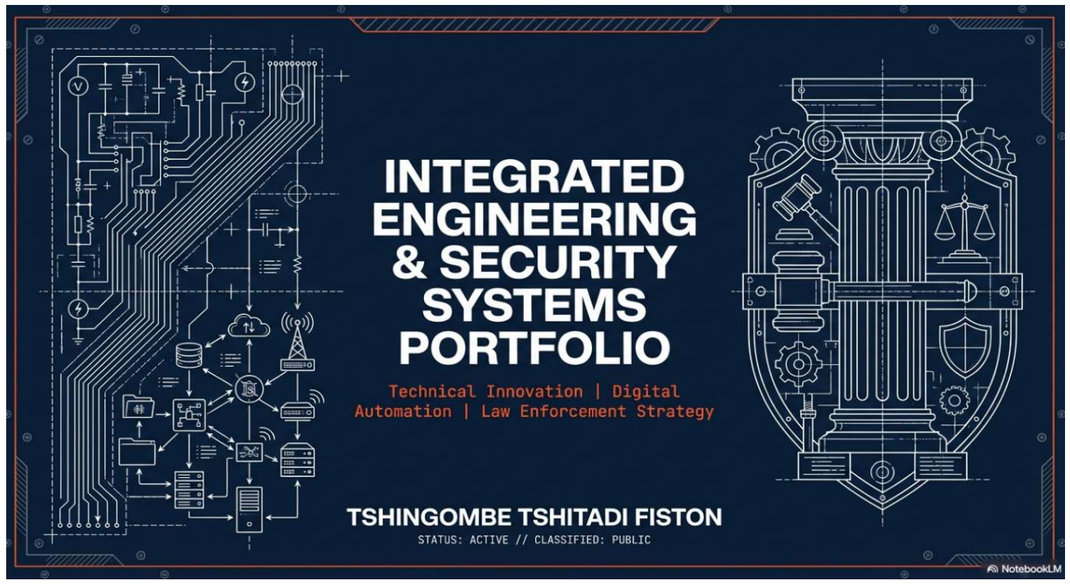
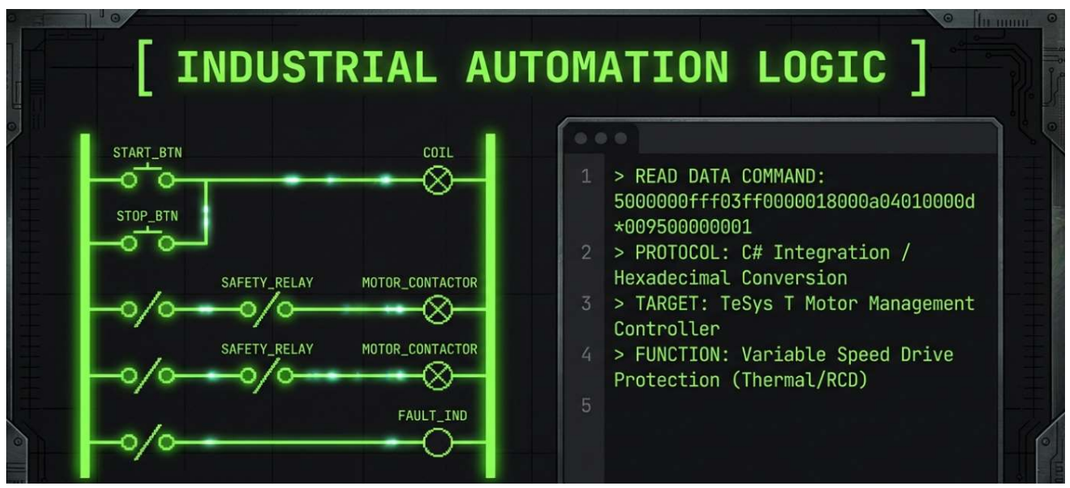

SYSTEMIC IRREGULARITIES: A BROKEN CIRCUIT
ASSESSMENT DELAYS
Delayed release of results and statement backlogs prevent career progression.
ADMINISTRATIVE FAILURE
Irregularities in marking; lack of verified transcripts.
POLICY GAPS
Disconnect between DHET policy, SAQA requirements, and college implementation.
CERTIFICATION
Students completing courses without receiving accredited certification (N-Diploma backlogs).
"The regret-filled job: no successful timetable, printer system failures, and experimental design research lost in administration."
NotebookLM


BRIDGING THE DIVIDE: NATED VS. NCV
NATED
(National Accredited Technical Education Diploma)
- Theoretical, Academic, Trimester-based.
- Current Flaw: Lacks practical outcome.
THE HYBRID MODEL
Combined System: Theoretical rigor reinforced by practical workshops.
NCV
(National Certificate Vocational)
- Practical, Skills-based, Trade-focused.
- Current Flaw: Lacks higher-level theoretical depth.
NotebookLM

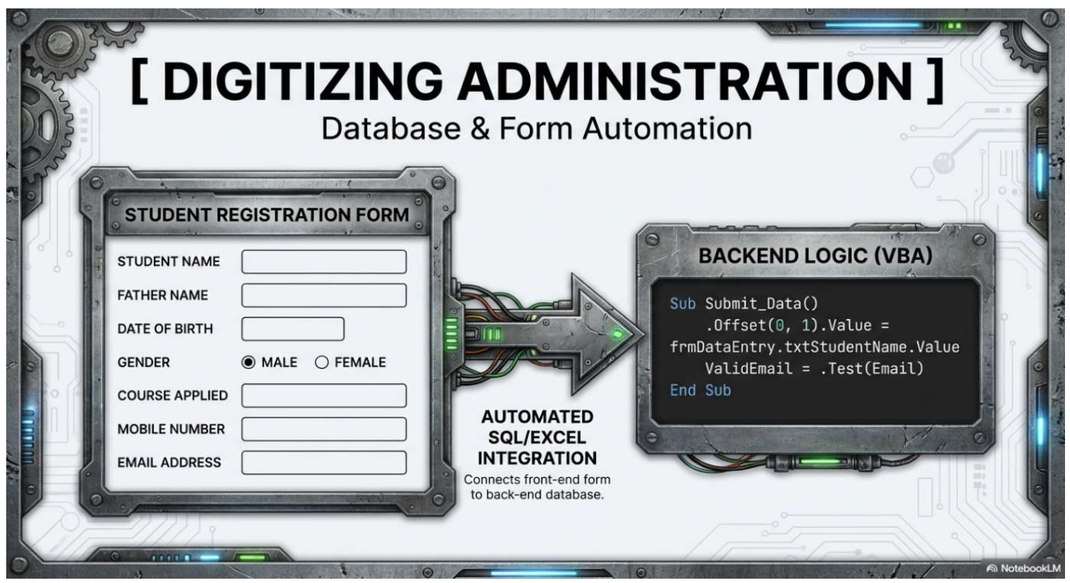
DIGITAL GOVERNANCE: THE ROLE OF LMS

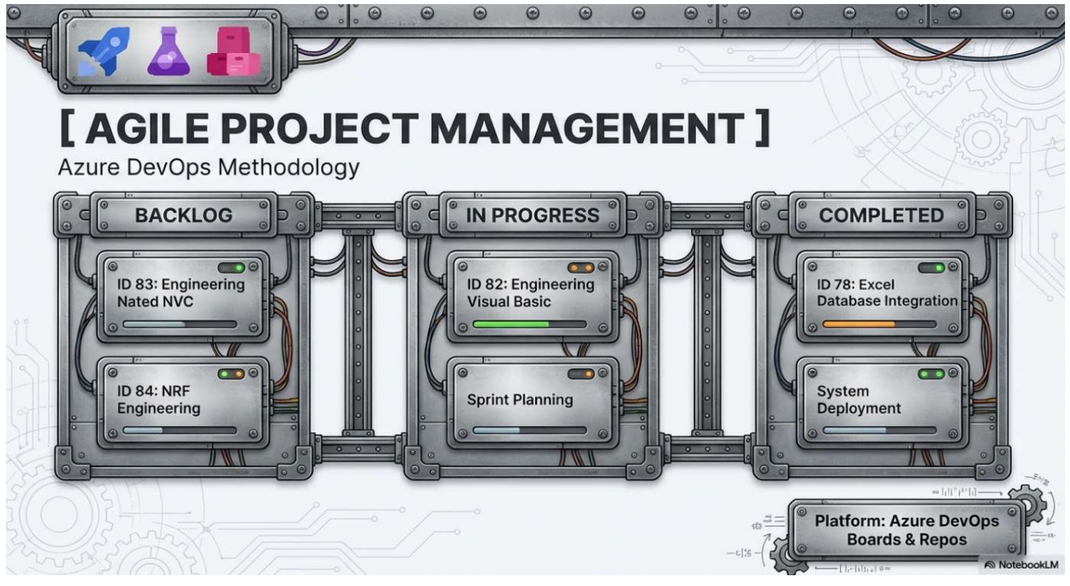

REAL-TIME TRACKING
Eliminating "delayed results" by digitizing marks immediately upon assessment.
ACCESSIBILITY
Bridging the rural gap: Web-based resources for distance learners.
E-PORTFOLIOS
Storing "Evidence of Work" online to prevent lost files during moderation.
"Technology has changed learning styles... LMS provides the ability to generate and distribute content evaluation history."
NotebookLM


INTEGRATED ENGINEERING & SECURITY SYSTEMS PORTFOLIO
Technical Innovation | Digital Automation | Law Enforcement Strategy
TSHINGOMBE TSHITADI FISTON
STATUS: ACTIVE // CLASSIFIED: PUBLIC
NotebookLM


[INDUSTRIAL AUTOMATION LOGIC]
START_BTN
COIL
STOP_BTN
SAFETY_RELAY
MOTOR_CONTACTOR
SAFETY_RELAY
MOTOR_CONTACTOR
FAULT_IND
1 > READ DATA COMMAND: 5000000fff03ff0000018000a04010000d*009500000001
2 > PROTOCOL: C# Integration / Hexadecimal Conversion
3 > TARGET: TeSys T Motor Management Controller
4 > FUNCTION: Variable Speed Drive Protection (Thermal/RCD)
5

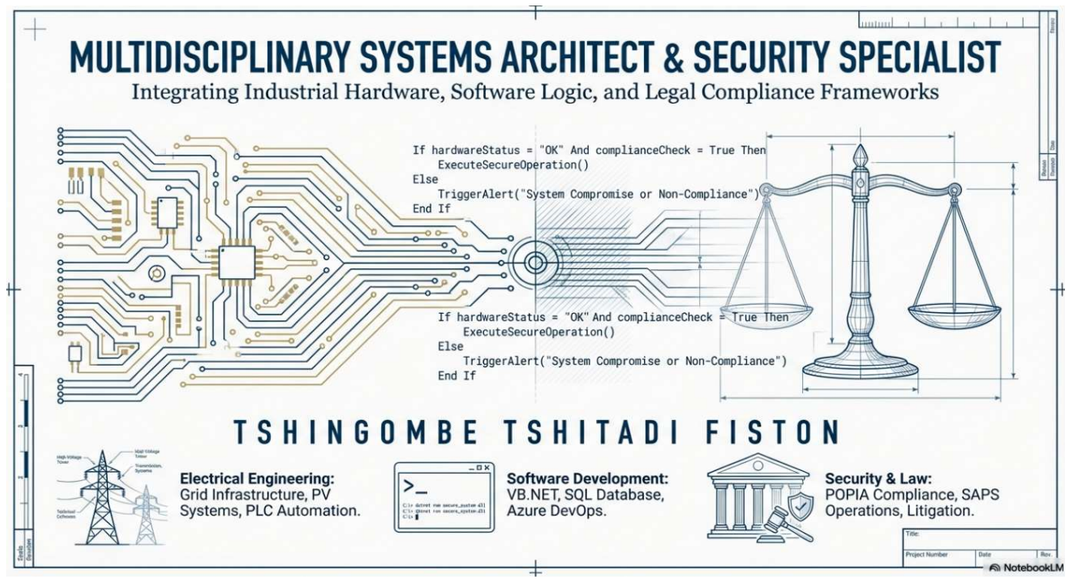
SAFETY PROTOCOL: PROTECTION OF PERSONS AND ANIMALS [ACTIVE]
NotebookLM

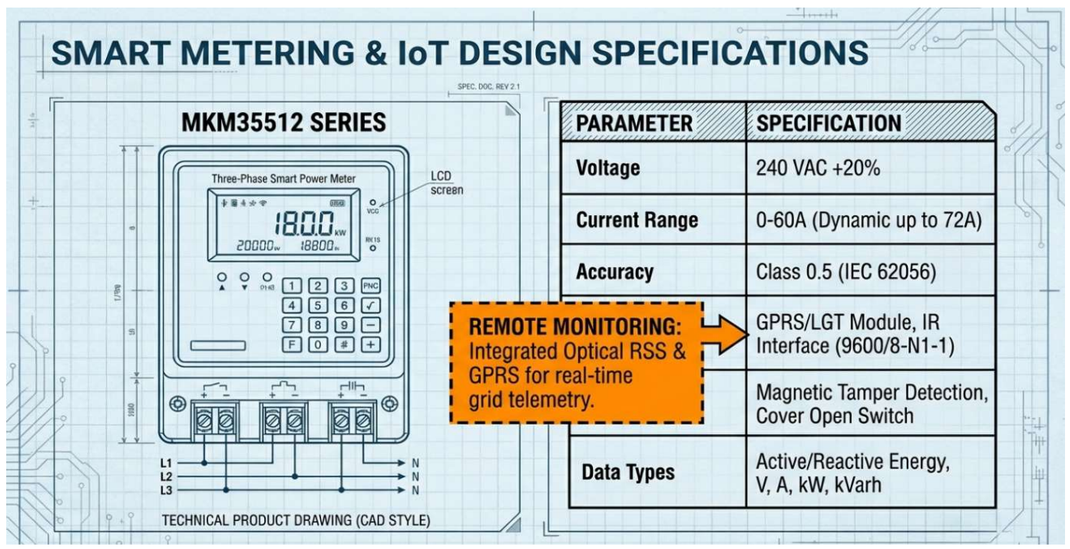

[DIGITIZING ADMINISTRATION]
Database & Form Automation
STUDENT REGISTRATION FORM
STUDENT NAME
FATHER NAME
DATE OF BIRTH
GENDER
MALE
FEMALE
COURSE APPLIED
MOBILE NUMBER
EMAIL ADDRESS
AUTOMATED SQL/EXCEL INTEGRATION
Connects front-end form to back-end database.
BACKEND LOGIC (VBA)
Sub Submit_Data()
.Offset(0, 1).Value = frmDataEntry.txtStudentName.Value
ValidEmail = .Test(Email)
End Sub
NotebookLM

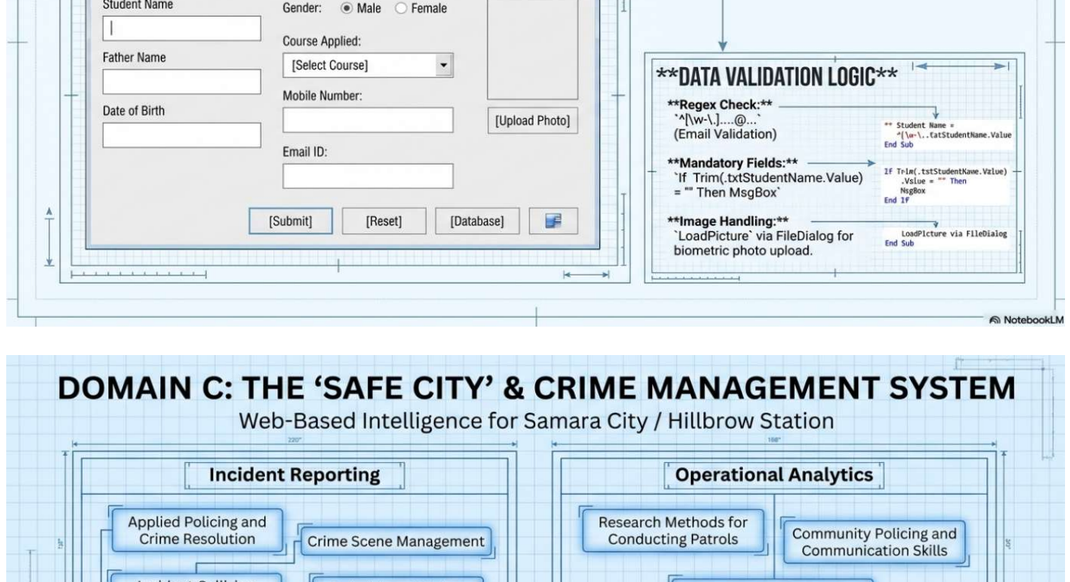

[AGILE PROJECT MANAGEMENT]
Azure DevOps Methodology
BACKLOG
ID 83: Engineering Nated NVC
ID 84: NRF Engineering
IN PROGRESS
ID 82: Engineering Visual Basic
Sprint Planning
COMPLETED
ID 78: Excel Database Integration
System Deployment
Platform: Azure DevOps Boards & Repos
NotebookLM

[INTEGRATED SYSTEM: THE SMART METER]
GPRS MODULE:
Remote Communication

PHASE LOCKED LOOP:
Frequency Monitoring
MAGNETIC TAMPER SWITCH:
Revenue Protection Logic
BILLING LOGIC:
Real-time metering library (Software)
INTERNAL BATTERY:
Backup Power
Synthesis of Hardware Engineering, Software Logic, and Revenue Protection.
NotebookLM

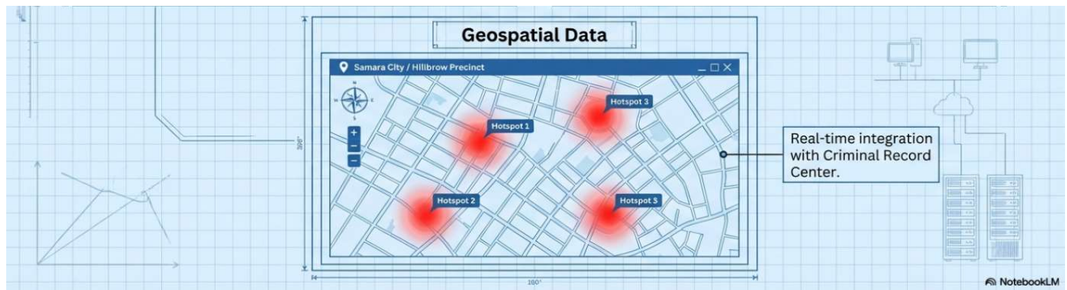

MULTIDISCIPLINARY SYSTEMS ARCHITECT & SECURITY SPECIALIST
Integrating Industrial Hardware, Software Logic, and Legal Compliance Frameworks
If hardwareStatus = "OK" And complianceCheck = True Then
ExecuteSecureOperation()
Else
TriggerAlert("System Compromise or Non-Compliance")
End If
TSHINGOMBE TSHITADI FISTON
Electrical Engineering:
Grid Infrastructure, PV Systems, PLC Automation.
Software Development:
VB.NET, SQL Database, Azure DevOps.
Security & Law:
POPIA Compliance, SAPS Operations, Litigation.
NotebookLM

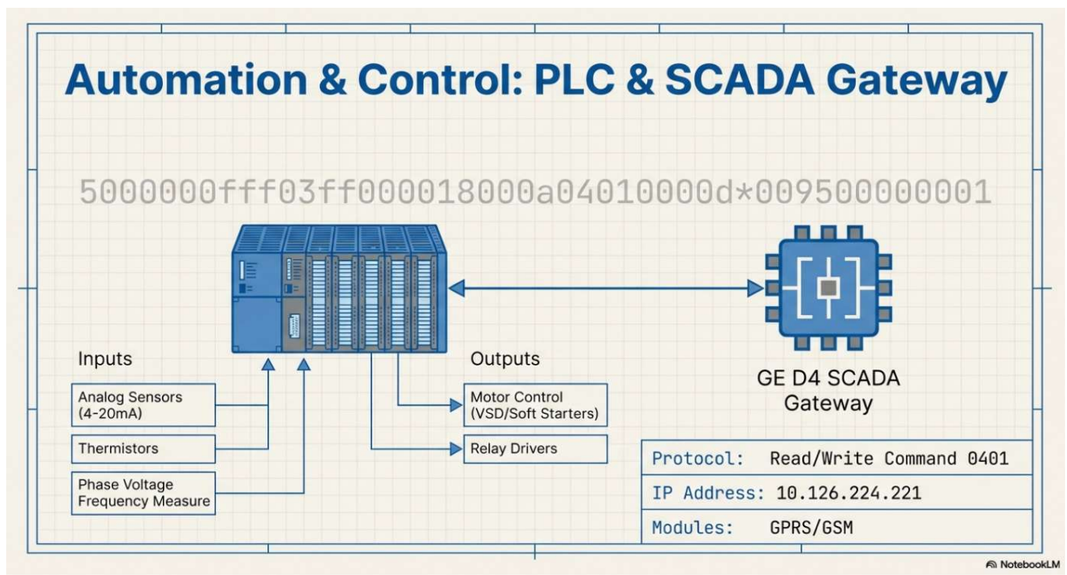

SMART METERING & IoT DESIGN SPECIFICATIONS
MKM35512 SERIES
Three-Phase Smart Power Meter
LCD screen
L1
L2
L3
N
N
N
TECHNICAL PRODUCT DRAWING (CAD STYLE)
PARAMETER
SPECIFICATION
Voltage
240 VAC +20%
Current Range
0-60A (Dynamic up to 72A)
Accuracy
Class 0.5 (IEC 62056)
REMOTE MONITORING:
Integrated Optical RSS & GPRS for real-time grid telemetry.
GPRS/LGT Module, IR Interface (9600/8-N1-1)
Magnetic Tamper Detection, Cover Open Switch
Data Types
Active/Reactive Energy, V, A, kW, kVarh

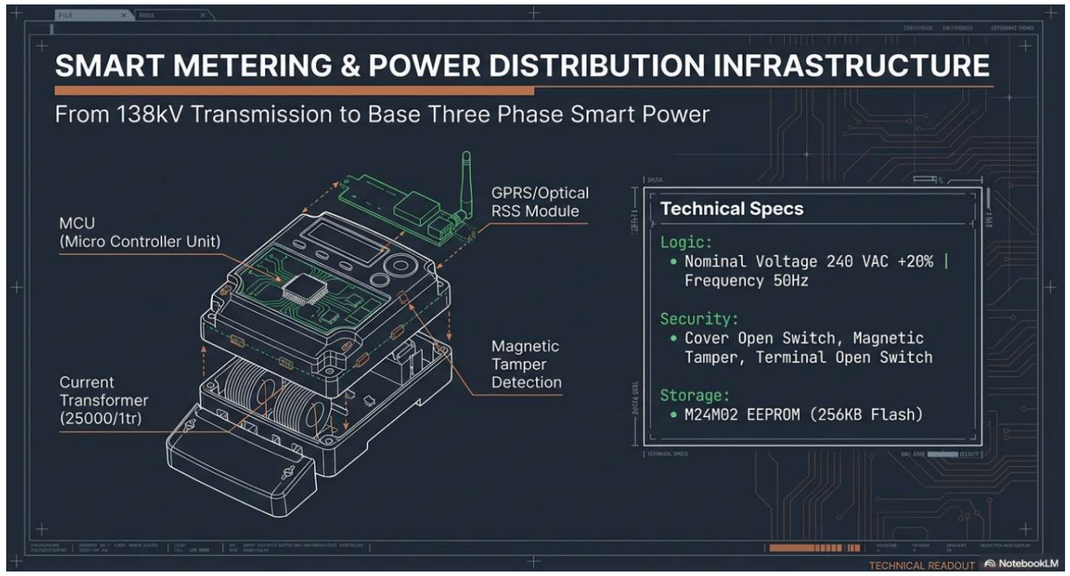

SOFTWARE PROJECT I: AUTOMATED BANKING (ATM) SYSTEM
SPEC. DOC. REV 2.1
USER INTERFACE FLOW (BLUEPRINT)
Start
Insert Card
PIN Verification
No
Yes
Balance Inquiry
Withdrawal / Deposit
End: Retrieve Card
VARIABLE DECLARATIONS
EVENT HANDLER (BUTTON CLICK)
SPEC. DOC. REV 2.1
CODE EDITOR WINDOW
VB.NET LOGIC (EXTRACTED)
Public Class Transaction_Box
Const PIN as Integer = 9343
Dim Balance as Decimal = 150
Private Sub Button1_Click()
If PinBox.Text = "9343" Then
TransactionGroup.Enabled = True
PinBox.Enabled = False
Else
MessageBox.Show("Incorrect PIN, Try Again", "PIN Error")
End If
End Sub
Private Function Deposit(ByRef Amount as Decimal)
Balance = Amount
Return Balance
End Function
End Class
EVENT HANDLER (BUTTON CLICK)
METHOD DEFINITION (DEPOSIT)
NotebookLM

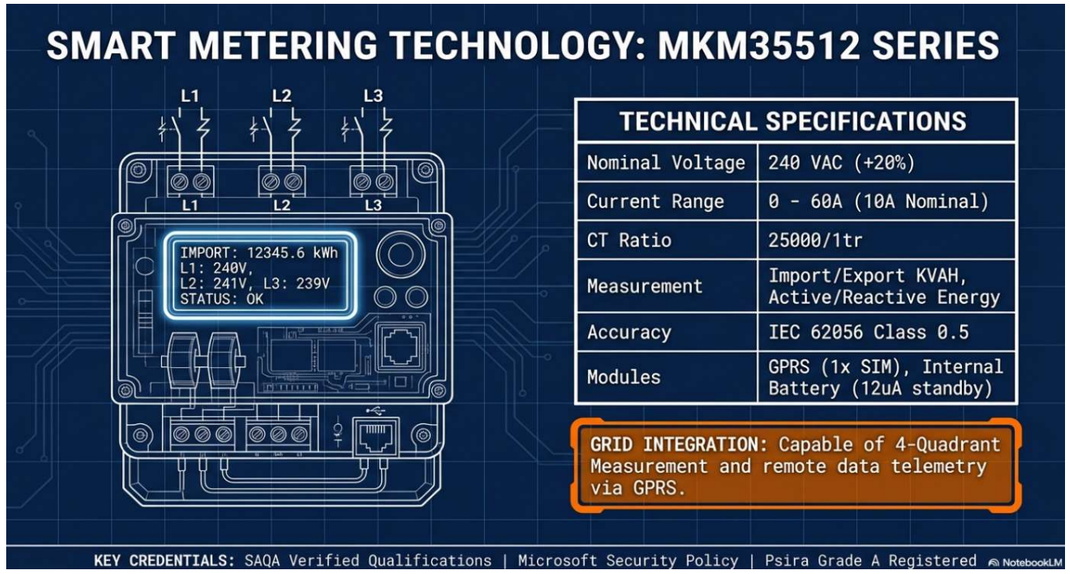
SOFTWARE PROJECT II: DATABASE MANAGEMENT & UI DESIGN
Automated Student Registration System (VBA/SQL)
User Input User Input Form
Student Registration Form
Student Name
Father Name
Date of Birth
Gender: Male Female
Course Applied:
[Select Course]
Mobile Number:
Email ID:
[Upload Photo]
[Submit]
[Reset]
[Database]
DATA VALIDATION LOGIC
Regex Check:
`^[\w-\.]+@...`
(Email Validation)
Mandatory Fields:
`If Trim(.txtStudentName.Value) = "" Then MsgBox`
Image Handling:
`LoadPicture` via FileDialog for biometric photo upload.
NotebookLM

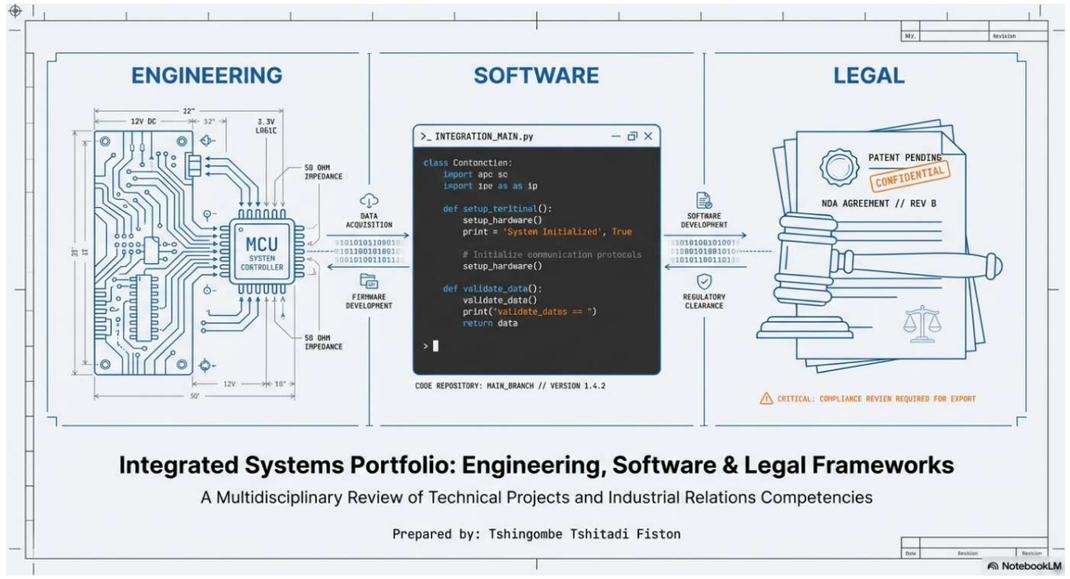
DOMAIN C: THE 'SAFE CITY' & CRIME MANAGEMENT SYSTEM
Web-Based Intelligence for Samara City / Hillbrow Station
Incident Reporting
Applied Policing and Crime Resolution
Crime Scene Management
Incident Collision Scenarios
Principles of Police Investigation
Operational Analytics
Research Methods for Conducting Patrols
Community Policing and Communication Skills
Operational Performance in Traffic Management

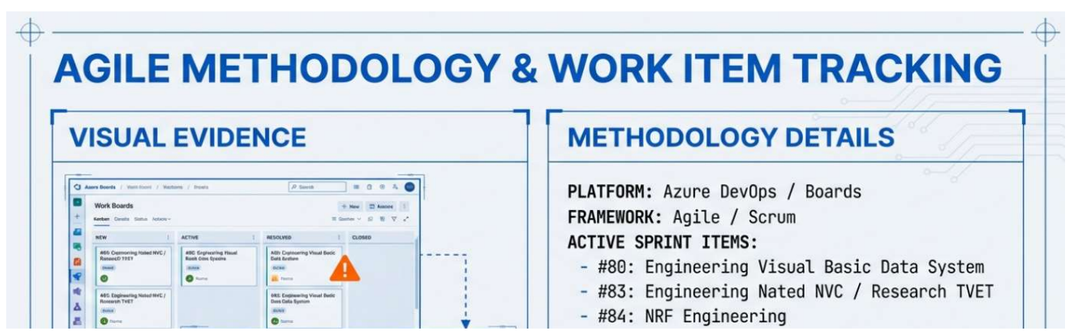

Geospatial Data
Samara City / Hillbrow Precinct
Hotspot 1
Hotspot 2
Hotspot 3
Hotspot 5
Real-time integration with Criminal Record Center.
NotebookLM

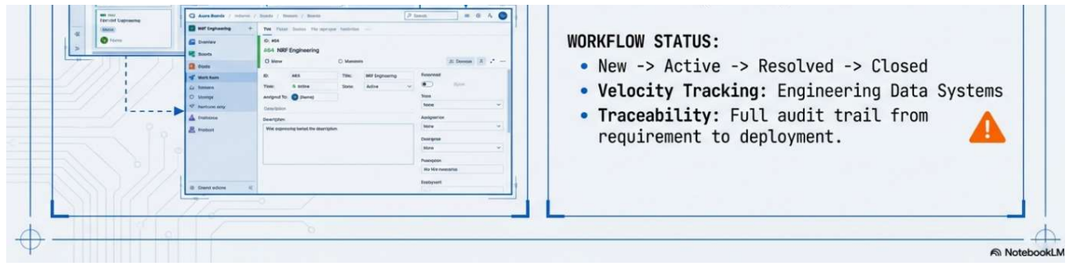

Automation & Control: PLC & SCADA Gateway
5000000fff03ff000018000a04010000d*009500000001
Inputs
Analog Sensors (4-20mA)
Thermistors
Phase Voltage Frequency Measure
Outputs
Motor Control (VSD/Soft Starters)
Relay Drivers
GE D4 SCADA Gateway
Protocol: Read/Write Command 0401
IP Address: 10.126.224.221
Modules: GPRS/GSM
NotebookLM


SMART METERING & POWER DISTRIBUTION INFRASTRUCTURE
From 138kV Transmission to Base Three Phase Smart Power
MCU (Micro Controller Unit)
GPRS/Optical RSS Module
Magnetic Tamper Detection
Current Transformer (25000/1tr)
Technical Specs
Logic:
• Nominal Voltage 240 VAC +20% | Frequency 50Hz
Security:
• Cover Open Switch, Magnetic Tamper, Terminal Open Switch
Storage:
• M24M02 EEPROM (256KB Flash)
TECHNICAL READOUT
NotebookLM


SMART METERING TECHNOLOGY: MKM35512 SERIES
L1
L2
L3
L1
L2
L3
IMPORT: 12345.6 kWh
L1: 240V,
L2: 241V, L3: 239V
STATUS: OK
TECHNICAL SPECIFICATIONS
Nominal Voltage
240 VAC (+20%)
Current Range
0 - 60A (10A Nominal)
CT Ratio
25000/1tr
Measurement
Import/Export KVAH, Active/Reactive Energy
Accuracy
IEC 62056 Class 0.5
Modules
GPRS (1x SIM), Internal Battery (12uA standby)
GRID INTEGRATION: Capable of 4-Quadrant Measurement and remote data telemetry via GPRS.
KEY CREDENTIALS: SAQA Verified Qualifications | Microsoft Security Policy | Psira Grade A Registered
NotebookLM


ENGINEERING
SOFTWARE
LEGAL
22"
12V DC
3.3V LOGIC
50 OHM IMPEDANCE
MCU
SYSTEM CONTROLLER
DATA ACQUISITION
FIRMWARE DEVELOPMENT
50 OHM IMPEDANCE
12V
50"
>_ INTEGRATION_MAIN.py
class Contonction:
import apc sc
import ipe as ap
def setup_terltinal():
setup_hardware()
print = 'System initialized', True
# Initialize communication protocols
setup_hardware()
def validate_data():
validate_data()
print('vatidate_datas == ")
return data
CODE REPOSITORY: MAIN_BRANCH // VERSION 1.4.2
SOFTWARE DEVELOPMENT
REGULATORY CLEARANCE
PATENT PENDING
CONFIDENTIAL
NDA AGREEMENT // REV B
CRITICAL: COMPLIANCE REVIEW REQUIRED FOR EXPORT
Integrated Systems Portfolio: Engineering, Software & Legal Frameworks
A Multidisciplinary Review of Technical Projects and Industrial Relations Competencies
Prepared by: Tshingombe Tshitadi Fiston
NotebookLM


AGILE METHODOLOGY & WORK ITEM TRACKING
VISUAL EVIDENCE
Work Boards
NEW
ACTIVE
RESOLVED
CLOSED
METHODOLOGY DETAILS
PLATFORM: Azure DevOps / Boards
FRAMEWORK: Agile / Scrum
ACTIVE SPRINT ITEMS:
- #80: Engineering Visual Basic Data System
- #83: Engineering Nated NVC / Research TVET
- #84: NRF Engineering


WORKFLOW STATUS:
New -> Active -> Resolved -> Closed
Velocity Tracking: Engineering Data Systems
Traceability: Full audit trail from requirement to deployment.
NotebookLM